Started on	Friday, 21 March 2025, 11:34 AM
State	Finished
Completed on	Friday, 21 March 2025, 11:57 AM
Time taken	22 mins 55 secs
Grade	**80.00** out of 100.00

Question **1**

Correct

Mark 20.00 out of 20.00

Given an array arr[] of size n, its prefix sum array is another array prefixSum[] of the same size,

such that the value of prefixSum[i] is arr[0] + arr[1] + arr[2] ... arr[i]. Write a Python code to generate the prefixSum []

Input : arr[] = {10, 20, 10, 5, 15}
Output : prefixSum[] = {10, 30, 40, 45, 60}

For example:

Test	Input	Result

`n = int(input())`
`arr=createList(n)`
`prefix=fillPrefixSum(arr)`
`print(arr)`
`print(prefix)`
	`3`
	`11`
	`22`
	`33`
		`[11, 22, 33]`
		`[11, 33, 66]`

Answer: (penalty regime: 0 %)

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```
def fillPrefixSum(arr):
    prefixSum = [0 for i in range(len(arr))]
    prefixSum[0] = arr[0]
    for i in range(1, len(arr)):
        prefixSum[i]=prefixSum[i-1]+arr[i]
    return (prefixSum)


def createList(n):
    l=[]
    for i in range(n):
        x=int(input())
        l.append(x)
    return l
```

	Test	Input	Expected	Got	

✔	`n = int(input())`
	`arr=createList(n)`
	`prefix=fillPrefixSum(arr)`
	`print(arr)`
	`print(prefix)`
		`3`
		`11`
		`22`
		`33`
			`[11, 22, 33]`
			`[11, 33, 66]`
				`[11, 22, 33]`
				`[11, 33, 66]`
					✔

✔	`n = int(input())`
	`arr=createList(n)`
	`prefix=fillPrefixSum(arr)`
	`print(arr)`
	`print(prefix)`
		`4`
		`5`
		`8`
		`3`
		`2`
			`[5, 8, 3, 2]`
			`[5, 13, 16, 18]`
				`[5, 8, 3, 2]`
				`[5, 13, 16, 18]`
					✔

Passed all tests! ✔

Correct

Marks for this submission: 20.00/20.00.

Question **2**

Correct

Mark 20.00 out of 20.00

Write a Python Program to find the product of two matrices. Check the condition to multiply two matrices, if the condition is false, print "Cannot Multiply"

For example:

Input	Result
2 3 1 1 2 2 3 1 3 2 2 4 1 2 3 5	Matrix: 1 1 2 2 3 1 Matrix: 2 4 1 2 3 5 Matrix: 9 16 10 19

Answer: (penalty regime: 0 %)

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```
def read_matrix(r,c):
    matrix = [[0]*c for row in range(r)]
    for i in range(r):
        lines = list(map(int, input().split()))
        for j in range(c):
            matrix[i][j] = lines[j]
    return matrix
def print_matrix(M):
    print("Matrix:")
    for i in range(len(M)):
        for j in range(len(M[0])):
            print(M[i][j],end=" ")
        print()
def product(M,N):
    C=[[0]*len(N[0]) for i in range(len(M))]
    for i in range(len(M)):
        for j in range(len(N[0])):
            for k in range(len(N)):
```

	Input	Expected	Got	
✔	2 3 1 1 2 2 3 1 3 2 2 4 1 2 3 5	Matrix: 1 1 2 2 3 1 Matrix: 2 4 1 2 3 5 Matrix: 9 16 10 19	Matrix: 1 1 2 2 3 1 Matrix: 2 4 1 2 3 5 Matrix: 9 16 10 19	✔

	Input	Expected	Got	
✔	3 3 1 1 1 1 1 1 1 1 1 3 3 2 2 2 2 2 2 2 2 2	Matrix: 1 1 1 1 1 1 1 1 1 Matrix: 2 2 2 2 2 2 2 2 2 Matrix: 6 6 6 6 6 6 6 6 6	Matrix: 1 1 1 1 1 1 1 1 1 Matrix: 2 2 2 2 2 2 2 2 2 Matrix: 6 6 6 6 6 6 6 6 6	✔
✔	2 3 1 2 3 1 2 3 1 4 1 2 3 4	Cannot Multiply	Cannot Multiply	✔

Passed all tests! ✔

Correct

Marks for this submission: 20.00/20.00.

Question **3**

Incorrect

Mark 0.00 out of 20.00

Write a Python program to evaluate the series below using recursion

$$x - \frac{x^3}{3!} + \frac{x^5}{5!} - \ldots$$ n terms

For example:

Input	Result
3 5	0.14087459415584405

Answer: (penalty regime: 0 %)

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```
r=int(input())
c=int(input())

m=[]
for i in range(r):
```

Syntax Error(s)

```
Sorry: IndentationError: expected an indented block (__tester__.python3, line 12)
```

Incorrect

Marks for this submission: 0.00/20.00.

Question **4**

Correct

Mark 20.00 out of 20.00

Write a Python Program to extract only the strong numbers from a list using filter

```
Example :145 is a strong number
```

```
Sum of digit factorials  = 1! + 4! + 5!
                         = 1 + 24 + 120
                         = 145
```

For example:

Input	Result
5 2 67 145 40585 60	[2, 145, 40585]

Answer: (penalty regime: 0 %)

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```
def factorial(n):
    p=1
    for i in range(1,n+1):
        p=p*i
    return p
def IsStrong(x):
    temp=x
    sum=0
    while (x>0):
        r=x%10
        sum = sum+factorial(r)
        x=x//10
    if sum==temp:
        return True
    else:
```

	Input	Expected	Got	
✔	5 2 67 145 40585 60	[2, 145, 40585]	[2, 145, 40585]	✔

Passed all tests! ✔

Correct

Marks for this submission: 20.00/20.00.

Question **5**

Correct

Mark 20.00 out of 20.00

Write a Python program to find the cube of all elements in a list using list comprehension

For example:

Input	Result
3 11.5 22 33.23	[11.5, 22.0, 33.23] [1520.875, 10648.0, 36693.65926699999]

Answer: (penalty regime: 0 %)

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```
n=int(input())
l=[]
for i in range(n):
    x=float(input())
    l.append(x)
sq_l=[item**3 for item in l]
print(l)
print(sq_l)
```

	Input	Expected	Got	
✔	3 11.5 22 33.23	[11.5, 22.0, 33.23] [1520.875, 10648.0, 36693.65926699999]	[11.5, 22.0, 33.23] [1520.875, 10648.0, 36693.65926699999]	✔
✔	5 2 3.5 6 9 45	[2.0, 3.5, 6.0, 9.0, 45.0] [8.0, 42.875, 216.0, 729.0, 91125.0]	[2.0, 3.5, 6.0, 9.0, 45.0] [8.0, 42.875, 216.0, 729.0, 91125.0]	✔

Passed all tests! ✔

Correct

Marks for this submission: 20.00/20.00.